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BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

IN THE MATTER OF

REDEVELOPMENT OF SPECTRUM TO  
ENCOURAGE INNOVATION IN THE  
USE OF NEW TELECOMMUNICATIONS  
TECHNOLOGIES

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) ET DOCKET No. 92-9  
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Comments  
of the  
Cellular Telecommunications Industry Association

A. Reasons for Comments.

1. The Cellular Telecommunications Industry Association ("CTIA") is the trade association of the cellular industry. Its members include over 90% of the licensees providing cellular service to the United States and Canada. CTIA's membership also includes cellular equipment manufacturers, support service providers, and others with an interest in the cellular industry. CTIA's carrier members make extensive use of the microwave frequencies under consideration in the instant proceeding to provide point to point communications between their switches and cell sites. For this reason, CTIA offers the comments below.

B. Relevant Proposals Under Consideration.

2. A Notice of Proposed Rule Making was issued by the Commission on February 7, 1992 in Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, FCC 92-20, 57 Fed. Reg. 5993, February 19, 1992 ("NPRM"). The NPRM proposes to take certain frequencies presently allocated to fixed

microwave systems and reallocate them to a number of emerging technologies. NPRM at ¶¶ 2 and 4. The NPRM indicates that the new services for which spectrum has been sought includes 200 MHz for personal communications services ("PCS"), 40 MHz for data PCS, 33 MHz for generic mobile satellite service; 70 MHz for digital audio broadcasting service; and 33 MHz for low earth orbit satellites. NPRM at ¶ 4. It additionally observes that 220 MHz in the 1.85-2.20 GHz region could be reallocated. The NPRM acknowledges that the primary effect of the reallocation will be on private and common carrier fixed microwave operations on 1.85 to 1.99, 2.11 to 2.15 and 2.16 to 2.20 GHz. NPRM at ¶ 17. It further concludes that, of the current users in this band, only the Broadcast Auxiliary Service on 1.99 to 2.11 GHz and the Multipoint Distribution Service ("MDS") on 2.15 to 2.16 GHz can not be subject to reallocation. NPRM at ¶ 18. According to the NPRM, fixed services on the affected frequencies can be reallocated to higher microwave frequencies or can utilize "off-the-shelf" technologies such as fiber optics, cable and satellite communications. NPRM at ¶ 17. The NPRM also proposes a blanket waiver of eligibility requirements for the use of the 3 GHz band for any displaced microwave users. NPRM at ¶ 20.

3. The NPRM proposes a 10 to 15 year transition period, which is represented as the useful life of existing equipment. During this period, existing users of the spectrum will share the reallocated frequencies with new technologies after which the incumbents will either be required to give up their frequencies or operate on a secondary basis to the new users. NPRM at ¶ 24. In the meantime, the Commission will continue to grant applications for existing services on the reallocated frequencies. However, all applications submitted after the adoption of the NPRM will be granted on a secondary basis to any new technology allocated the spectrum. NPRM at ¶ 23. Finally, the NPRM proposes to allow the providers of the new services to negotiate "*financial arrangements*" with the displaced licensees which would allow the new users earlier access to the

frequencies. NPRM at ¶ 26.

### C. CTIA View of NPRM Proposals.

4. CTIA supports the allocation of frequencies to PCS.<sup>1</sup> However, the fixed services for which the spectrum is currently being used are of great value to industry, government and the public. Microwave facilities afford flexibility and economies that provide efficient, reliable and cost effective service. The cellular industry, for example has relied on the frequencies identified in the NPRM to improve the quality and availability of the industry's service to the public. CTIA agrees with the NPRM's general proposition that there are potential new services, such as PCS, that may deserve spectrum more than some current uses, but the issue can not be answered until the Commission clearly identifies what new services will be provided in the 1.85 to 2.20 Ghz region.<sup>2</sup> Even the terms "PCS and "personal communications service" themselves mean different things to different people and, as a result, remain ambiguous. To quote the New York Times:

On the other side [of the spectrum allocation issue] are companies that want to provide "personal communications services" - a vague term used to describe a broad family of low-cost wireless telephones, laptop computers and even electronic pocket organizers that can send and receive data over the air.<sup>3</sup>

The Commission must clearly identify the purposes for which the new spectrum will be used before it allocates frequencies for new services.

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<sup>1</sup>See Amendment of the Commission's Rules to Establish New Personal Communications Services, FCC Gen. Docket No. 90-314, RM-7140, RM-7175 and RM-7618, Comments of the Cellular Telecommunications Industry Association on the PCS En Banc Hearing, filed January 9, 1992.

<sup>2</sup> The NPRM indicates that PCS is anticipated to be the first use for the affected frequencies, but leaves to another proceeding the issues of how much spectrum will be needed and what kind of services will constitute PCS. NPRM at ¶ 29. CTIA believes that these questions must be resolved, however, before there can be a resolution of the instant proceeding.

<sup>3</sup> E. L. Andrews, "FCC Radio Plan Draws Opposition," The New York Times at D7, June 4, 1992.

5. If microwave frequencies are reallocated, CTIA believes the transition period should be as long as possible, 15 years at a minimum. This amount of time not only reflects the useful life of the equipment currently in service, but also will assist cellular carriers in avoiding serious disruptions or service delays due to their reliance on radio facilities affected by the reallocation.<sup>4</sup> In addition, the Commission should avoid imposing rules that place any explicit limits on the amount of money new users of the spectrum may pay to existing users for an agreement to move off the frequencies prior to the transition period's expiration. The costs of moving to new facilities are not reflected merely by the replacement costs of existing microwave equipment alone. Substitute systems on higher frequencies may not only require newer, more expensive transmission equipment, but also will require a greater number of facilities than had been used previously. This is due to the less efficient propagation characteristics of the replacement spectrum, which requires a greater number of microwave segments or "hops" to cover the same distance as existing facilities.<sup>5</sup> Moreover, where microwave facilities are replaced with copper or fiber optic links, the value of the facilities being replaced must be calculated as the discounted present value of any recurring charges for substitute facilities, in addition to the tangible and intangible benefits to the cellular carrier of operating its own system.<sup>6</sup> The ultimate value will vary greatly from case to

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<sup>4</sup> In order for the transition period to be meaningful, no limit should be placed on the ability of a licensee to modify or change existing facilities. Cellular network architecture must be flexible in order to adapt to the public's growing demand for cellular service. As a consequence, microwave facilities change regularly, as carriers add cells and reconfigure their existing facilities. If a cellular carrier cannot modify its microwave facilities without losing its right to the transition period, then the transition period has little practical benefit.

<sup>5</sup> Each new hop requires finding an antenna site, with the attendant delays for site acquisition, zoning approval, construction, etc.

<sup>6</sup> Intangible benefits include, possessing complete control over network facilities to insure system reliability and providing the public with a redundant communications network in times of emergency.

case. Because of the potential for great differences from facility to facility, the Commission should impose no limit on the level of fair compensation. The amount should be left entirely to negotiation by the affected parties.

6. The Commission also should exercise its power to issue tax certificates in favor of those licensees who agree to move before the end of the transition period. These certificates generally allow the recipient to defer recognition of taxable gain on the sale of a communications property where the sale furthers a new FCC policy or rule. While these certificates have historically been issued in the broadcast services, the Commission has asserted the authority to issue them in non-broadcast circumstances. Telocator Network of America, 58 Rad. Reg. 2d (P&F) 1443 (1985). The ability to defer taxable gains will be an additional incentive for existing users of the frequencies to relinquish their licenses. Thus, tax certificates should be issued by the Commission to assist in clearing the necessary spectrum.

7. The Commission additionally should implement licensing policies whereby displaced users have a reliable preference for new facilities when applying for available spectrum. The proposed waiver of the eligibility requirements for the use of the 3 Ghz ban is a good first step, but is not enough by itself to address the problems faced by existing users who are required to move. In many larger markets, no fixed microwave frequencies are available in the 3 Ghz ban or elsewhere. Moreover, in order for waivers to be effective, they need to be implemented immediately to address the continuing need for fixed microwave facilities, even while the current proceeding is pending. The NPRM is correct that "off-the-shelf" wire-based and fiber optic technology can be a substitute for microwave facilities, but these alternatives are often more costly, which is why cellular carriers elect to use microwave facilities. Wire and fiber based technology has other disadvantages, which include delays in getting new facilities on line, loss of flexibility

in network architecture and reliability as well as the additional continuing expenses of leasing, rather than owning network links. Furthermore, in the rural areas, fiber is generally not available and even wire based network links may be very difficult to obtain. For this reason, the loss of microwave links could mean significant increases in the cost of cellular for subscribers. CTIA thus believes that the most effective substitute for the reallocated frequencies often will be additional spectrum, not wire or fiber based networks.

8. The NPRM proposal to determine which facilities will be entitled to the transition period is of great concern to the cellular industry. The NPRM states that any microwave facility on the affected frequencies which is applied for after the adoption date of the NPRM (January 16, 1992), will be licensed on a "secondary basis" to the new services eventually assigned to the frequencies. This appears to mean that any microwave facilities on those frequencies applied for after January 16, 1992, would be required to move immediately when the new services begin operation, without any period of transition. This is in contrast to existing microwave facilities for which a 10 to 15 year transition period has been proposed. NPRM at ¶¶ 23 and 24. To quote the Commission on this point:

First, we wish to insure the availability of the existing vacant 2 GHz spectrum for the initial development of new services and to discourage possible speculative fixed service applications for this spectrum. We therefore will continue to grant applications for fixed operations in the proposed new technologies bands; however, applications for new facilities submitted after the *adoption date* of this Notice will be granted on a secondary basis only, conditioned on the outcome of this proceeding. This will provide some accommodation for the needs of fixed microwave users, particularly in less congested areas.

NPRM at ¶ 23. (footnote omitted)(emphasis added). Unfortunately, the Commission's desire to discourage possible speculation impacts on the cellular industry's ability to provide reliable, high quality service to ever growing numbers of customers.

9. CTIA recently published the results of its semiannual data survey of the cellular industry which showed that *the industry grew at an annual rate of 43 percent during the recessionary period of 1991*. The public's great demand for cellular service requires significant expansion of existing facilities, including fixed microwave systems. Moreover, this investment cannot be postponed pending the outcome of the NPRM without paralyzing the industry's expansion and jeopardizing the quality of cellular service provided to all customers. While the NPRM proposes new frequencies for microwave use, these frequencies are presently unavailable for a variety of reasons, including lack of spectrum space or equipment, antenna site requirements and prohibitions under the Commission's current rules. In addition, there can be substantial waiting periods for wire or fiber optic based dedicated facilities.

10. By granting licenses subject to the outcome of the proceeding, the Commission has, without prior notice to existing spectrum users, affected all facilities applied for after the NPRM's adoption. This improperly forces cellular carriers who must expand to invest in facilities they may be forced to abandon without compensation in only a few years, or to select less reliable, non-cost effective alternatives that may significantly delay the introduction of new or improved service and raise the cost of cellular service for all subscribers. In essence, the approach set forth in the NPRM works against the expansion of a proven personal communications service, *i.e.*, cellular, in favor of unknown and unproven services. Such an action is arbitrary and capricious, and a patent violation of Sections 553(b) and (c) of the Administrative Procedures Act, 5 U.S.C. §§ 1003 (b) & (c). Already the proposal has chilled the expansion of cellular services. The conclusion of the instant proceeding is the earliest the Commission can impose conditions on the licenses of new applicants and limit the applicability of any transition period. For this reason, CTIA urges the Commission to reconsider its decision to conditionally grant new microwave facilities on the

affected frequencies during the pendency of the proceeding.<sup>7</sup>

11. Finally, CTIA questions the NPRM's conclusion that the Broadcast and MDS uses of the spectrum should be exempt. The Commission does not have before it information sufficient to conclude that the use of the spectrum for Broadcast Auxiliary Services or MDS is of greater value than some emerging technologies. For example, MDS and other video services are as readily transferrable to wire or fiber optic based media as are the other incumbent users of the spectrum.<sup>8</sup> Prior to any action permanently reassigning frequencies, the Commission needs to more clearly articulate why wire and fiber based facilities or other frequencies are not acceptable alternatives for these services. The Commission also needs to address how the proposed reallocation fits into legislation introduced in Congress that would allocate for private use spectrum currently assigned exclusively to the government. As drafted, the NPRM prematurely excludes some frequencies from consideration before the facts are known.

#### D. Conclusion.

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<sup>7</sup> On March 20, 1992, Century Telephone Enterprises, Inc. ("Century"), took the extraordinary step of filing a petition for reconsideration of the NPRM, due to the importance of the issue to the company. The primary issue in the petition is the position in which the NPRM places the cellular industry with regard to the expansion of cellular networks, particularly while the NPRM proceeding is pending. Essentially, cellular systems are left without being able to rely on the future availability of the affected spectrum at a time when public demand is forcing them to substantially expand their networks. At the same time, the policies proposed in the NPRM to mitigate the impact of the loss of the spectrum have not been implemented. The arguments raised in the petition have merit and reflect problems caused by the NPRM for all cellular carriers, not just Century.

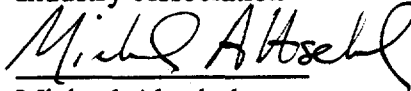
<sup>8</sup> See C. Mason, "Negroponte Predicts More Spectrum for Cellular," CTIA Show Daily, February 12, 1992, at 1, where Nicholas Negroponte, Professor of Media Technology and Director of the Media Laboratory at the Massachusetts Institute of Technology, discusses moving services with no mobility requirement, such as television, to wire based transmission media. This move, which has been referred to as the "Negroponte Switch," is forecast to occur over the next 10 to 15 years.



12. CTIA supports the allocation of additional spectrum for wireless services such as PCS. The NPRM, however, fails to explicitly consider how the spectrum impacted by the rulemaking will be used to provide such services. Until this question is addressed, reallocating the spectrum assigned to incumbent users is premature. Also, while the NPRM proposes to assist displaced incumbents to move to new frequencies, additional efforts are required to find spectrum that is suited to the needs of the displaced users. Otherwise, the NPRM could significantly impact the cost of cellular to the public, the availability and quality of cellular coverage, and the speed with which cellular carriers are able to expand their service to the public. For these reasons, CTIA requests that the Commission reconsider the NPRM proposals addressed above before adopting a final spectrum reallocation plan.

Respectfully Submitted,

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